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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,214	07/30/2003	Lloyd E. Miller	793-26	2003

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EXAMINER

PIHULIC, DANIEL T

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/630,214

Applicant(s)

MILLER, LLOYD E.

Examiner

Daniel Pihulic

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-13 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 9 is/are rejected.
- 7) ☒ Claim(s) 6 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. Applicant has complied with the conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e).

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makino et al. in combination with Phelan. The Makino et al. reference discloses the utilization of an ultrasonic distance sensing apparatus comprising a transducer (3); a drive circuit (2); and control circuit (21) which compensates for the environmental temperature (see column 2, lines 11-19 and column 8, lines 47-52) as recited in claim 1. The difference between the Makino et al. reference and the claims is that the claims recite the utilization of a microcontroller. The Phelan reference teaches that it was well known in the art to utilize a microcontroller (14) in an ultrasonic distance measuring system that has attenuation compensation. It would have been obvious to modify the Makino et al. reference to utilize a microcontroller instead of a control circuit as motivated by the Phelan reference to enable the Makino et al. system to be more compact and to take advantage of digital signal processing.

With regards to claim 2 see column 8, lines 65-68 of the Makino et al. reference discloses increasing the transmission level when the temperature increases.

With regards to claim 3 see the abstract and column 2, lines 3-10 of the Makino et al. reference which discloses compensating the received signal level for environmental temperature changes.

4. Claims 4, 5 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Makino et al. in combination with Phelan. as applied to claim 1 above, and further in combination with Korba. The claims additionally recite the utilization of a variable gain receiver. The Korba reference teaches that it was well known in the art to utilize a variable gain receiver (19) to compensate for attenuation of echoes. It would have been obvious to modify the previous combination of references to utilize a variable gain receiver as motivated by the Korba reference to enable the system to compensate undesired echo attenuations as recited in claim 4.

With regards to claim 5 see the abstract which states compensating for temperature and humidity (which changes the air's density).

With regards to claim 7 see column 2, lines 3-10 of the Makino et al. reference disclose compensating the level of received signals.

With regards to claim 9 see FIG. 2b of the Korba reference which teaches the utilization of multiple controllers. It would have been obvious to modify the previous combination of references to utilize controllers as motivated by the Korba reference to enable the system to even more compact and to take advantage of even more digital signal processing.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The ULS-04 system discloses manual settings to compensate for attenuation.

6. Claims 6 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 10-13 are allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Pihulic whose telephone number is 703-306-4168. The examiner can normally be reached on Monday through Thursday from 7 a.m. to 5 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza, can be reached on 703-306-4171.


The fax phone numbers for the organization where this application or proceeding is assigned are:

703-872-9306 for official responses, and

703-746-3847 for unofficial communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Daniel Pihulic**  
**Primary Examiner**  
**Art Unit 3662**